

Utilizing Highway Right of Ways and Culverts to Accommodate

Manure Draglines

Agdex 743-3

For dragline or direct-flow manure application systems to reach fields, potentially miles from a liquid manure storage, the hoses may have to run in or along a road ditch (right of way) or through culverts to cross roads. Roads can be crossed by using existing culverts or may require the installation of a culvert or pipe to create a crossing.

If you would like to use road right of ways, you need to obtain permission from the responsible jurisdiction, whether it be the municipality or the Province. This factsheet only focuses on the application procedures for provincial highways.



Municipal Roads

Many municipalities recognize the need to facilitate the effective management of manure using the dragline system. However each municipality has their own policy, so it is important to contact your local authority to learn about their requirements and obtain permission.

Provincial Highways

There are two different application procedures for obtaining permission to use provincial highway infrastructures.

1. Utilizing a highway right of way or existing culvert
2. Installing new culverts or pipes.

The application procedure for both is administered by your local district Alberta Transportation Office (see Table 1 on page 5).

Utilizing a Provincial Highway Right of Way or an Existing Culvert

Follow this process if existing infrastructure is being used to accommodate a dragline system on a provincial highway. An [Application for Placement of a Water/Sewer Pipeline](#) to Alberta Transportation will need to be completed. Once the application is received by Alberta Transportation an approval letter can be expected within two weeks. This is a one time application and permit but it can be renewed as required in the following years. The renewal can be made by contacting the Alberta Transportation Office to notify when the work will be occurring.

Submit Application

Placement of a Water/Sewer Pipeline
Drawing/Aerial Photo
Emergency Manure Spill Plan
Traffic Accommodation Strategy

Approval Letter

Approximately 2 week turn around time from receiving application
Receive letter granting conditional approval
Work can proceed if conditions are met

Implementation

Signage for Highway
Flag where dragline enters and exits highway right of way
Monitor for spills/leaks

Figure 1. Placement of a Water/Sewer Pipeline Application Process

Application Requirements for Utilizing a Highway Right of Way or an Existing Culvert

The following information will be needed to complete the Alberta Transportation application.

An example of a completed application and associated documents can be found in Appendix A and blank forms of the application can be found in Appendix B.

1. Complete the Application for Placement of a Water/Sewer Pipeline

Add the following information to the comments section of the application.

- Provide a contact list of adjoining landowners in case there is a spill or leak. You are required to contact the affected landowners and your district Alberta Transportation Office.
- Indicate the frequency (e.g., once or twice a year) and time of year that the manure application will be completed (e.g., every spring).
- Provide the culvert diameter.

2. Provide a hand drawn map or aerial photo. Include the following:

- Location of fields and right of ways being used
- Legal land descriptions
- Parallel and crossing points - where the dragline will be placed in the right of way and where it is crossing the road
- Diameter size of culvert to be utilized
- Identify any approaches, how the dragline would cross the approach and how the landowner/road allowance access would be maintained if there is no culvert under the approach

The following websites can be used to obtain aerial photos:

- [Alberta Soil Information Viewer](#)
- [Google Earth](#)

3. Provide a copy of your emergency manure spill plan.

4. Complete a Traffic Accommodation Strategy (TAS). This strategy shows how traffic will be accommodated while work is being done within the highway right of way.

- The example provided in Appendix A is based on the drawing on page 70 of the [Traffic Accommodation in Work Zones 2008 Manual](#) (Dwg no. TCS-B-2.3A).
- It is recommended to put flagging where draglines enter and exit highway right of ways.
- Signs must be professional and cannot be hand painted. Check with your local municipality or sign rental companies.

Once all four components of the application package are complete submit it to the appropriate district Alberta Transportation Office. If you have any questions, please contact your district Alberta Transportation Office (see Table 1 on page 5).

Submitting Your Application Checklist

Your application package should include the following items:

- Completed Placement of a Water/Sewer Pipeline Application
- Map Drawing or Aerial Photo
- Emergency Manure Spill Plan
- Traffic Accommodation Strategy

Installing New Culverts or Pipes for Dragline Crossing under Provincial Highways

There are two different methods that can be used to accommodate crossing an existing provincial highway where no culvert exists.

1. Culvert installation through highway
2. Directional bore a carrier/permanent pipe under the highway

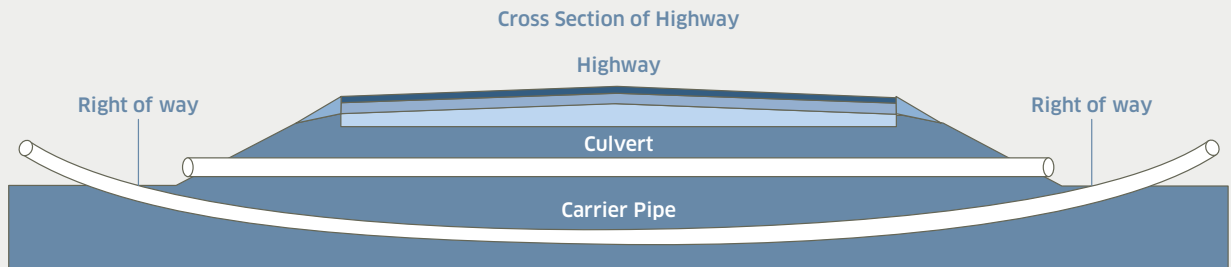


Figure 2. Conceptual Road Crossing Options for Dragline

Due to the nature of installation and specific conditions, it is recommended you contact your local district Alberta Transportation Office so they can guide you through the application process. The culvert has to be installed to Alberta Transportation standards and specifications. The cost of installation, ongoing maintenance and replacement of the culvert is the responsibility of the applicant.

Installations will require a contractor. Some contractors will look after the application process as part of their contract; this should be determined as part of the initial negotiation between parties.

Things to consider when hiring a contractor.

1. Have they done this type of work before?
2. Are they experienced with Traffic Accommodation Strategies?
3. Do they have appropriate signs?
4. Do they have insurance for working in road right of ways?

If the permanent crossing is under a watercourse or waterbody, then you will also need to follow Alberta Environment and Park's [Code of Practice for Pipelines Crossing a Water Body](#).

Summary

If you are planning to utilize a dragline manure application system and you need to use road infrastructure for transferring hoses, be sure to plan ahead to obtain permission from either the municipality or the Province. Fill out the appropriate paperwork and have an emergency manure spill plan developed. (For Provincial Application Forms and Templates see Appendix B).

For assistance in utilizing provincial road infrastructure, please call your local district Alberta Transportation Office.

Listings of Alberta Transportation District Offices

ATHABASCA	Unit #2, Jewell Building, 3603 - 53rd Street T9S 1A9	(780) 675-2624	transdevelopmentathabasca@gov.ab.ca
CALGARY	2nd Floor, Willowglen Business Park, 803 Manning Road N.E. T2E 7M8	(403) 297-6311	transdevelopmentcalgary@gov.ab.ca
EDSON	Room 202, Provincial Building, 111 - 54th Street T7E 1T2	(780) 723-8250	transdevelopmentedson@gov.ab.ca
FORT MCMURRAY	6th Floor, West Tower, Provincial Building, 9915 Franklin Avenue, T9H 2K4	(780) 743-7430	Application.Permit.FM@gov.ab.ca
GRANDE PRAIRIE	1401, Provincial Building, 10320 - 99th Street T8V 6J4	(780) 538-5310	transdevelopmentgrandeprairie@gov.ab.ca
HANNA	P.O. Box 1300, Provincial Building, 401 Centre Street T0J 1P0	(403) 854-5550	transdevelopmenthanna@gov.ab.ca
LETHBRIDGE	3rd Floor, Administration Building, 909 - 3rd Avenue N. T1H 0H5	(403) 381-5426	transdevelopmentlethbridge@gov.ab.ca
PEACE RIVER	3rd Floor, Provincial Building, Bag 900, Box 29, 9621 - 96 Avenue, T8S 1T4	(780) 624-6280	transdevelopmentpeaceriver@gov.ab.ca
RED DEER	#401, Provincial Building, 4920 - 51st Street T4N 6K8	(403) 340-5166	transdevelopmentreddeer@gov.ab.ca
STONY PLAIN	Room 223, Provincial Building, 4709 - 44th Avenue T7Z 1N6	(780) 963-5711	transdevelopmentstonyplain@gov.ab.ca
VERMILION	Box 28, Provincial Building, 4701 - 52nd Street T9X 1J9	(780) 853-8178	transdevelopmentvermilion@gov.ab.ca



Appendix A – Example of an Application for Placement of a Water/Sewer Pipeline

Government of Alberta
Transportation

APPLICATION FOR PLACEMENT OF
A WATER / SEWER PIPELINE

APPLICANT:

Company JOHN BROWN

Mailing Address RR # 2

City AIRDRIE Province AB Postal Code T4B 2A4

Contact Person JOHN BROWN

Phone # 555-5555 Fax # 555-5555 e-mail jbrown@hotmail.com

Member of a one-call system? Yes No
(e.g. Alberta First Call)

OWNER:

Company SAME AS ABOVE

Mailing Address _____

City _____ Province _____ Postal Code _____

Phone # _____ Fax # _____ e-mail _____

FACILITY:

Type: TEMPORARY MANURE File / Drawing No. N/A
(e.g. water / sewer)

CARRIER PIPE

Pipe Type THERMOPLASTIC POLYURETHANE Max. Operating Pressure (kPa) 236 PSI

Outside Diameter (mm) 152mm Wall Thickness (mm) 3.5mm

CASING PIPE

Outside Diameter (mm) N/A Wall Thickness (mm) N/A

CONSTRUCTION LOCATION

Starting Point SW-17-27-28-W4 Ending Point NE-8-27-28-W4
(legal location) (legal location)

Highway(s) Affected: SECONDARY 567

PROPOSED FACILITY PARALLELS HIGHWAY NO. _____ FROM - TO

SW ¼ SEC 17 TWP 27 RGE 28 W 4 M TO SE ¼ SEC 17 TWP 27 RGE 28 W 4 M
NE ¼ SEC 8 TWP 27 RGE 28 W 4 M TO NE ¼ SEC 8 TWP 27 RGE 28 W 4 M

PROPOSED FACILITY CROSSES HIGHWAY NO. _____ BETWEEN / IN THE

SE ¼ SEC 17 TWP 27 RGE 28 W 4 M AND NE ¼ SEC 8 TWP 27 RGE 28 W 4 M
____ ¼ SEC ____ TWP ____ RGE ____ W ____ M AND ____ ¼ SEC ____ TWP ____ RGE ____ W ____ M

COMMENTS:

CULVERT SIZE IS 24 INCHES
LANDOWNERS AFFECTED: JANE DOE 555-2222 HARVEY SMITH 333-3333

I JOHN BROWN hereby certify that the information given on this form is full and complete and is, to the best of my knowledge, a true statement of facts relating to this application for placement of a water/sewer pipeline.

(Signed) John Brown

(Date) April 15, 2017

Example of Aerial Photo



Example of an Emergency Manure Spill Plan

Emergency Manure Spill/Leak Action Plan

1. All manure application equipment and/or pumps will be stopped.
2. All valves will be shut off and the hose will be separated to prevent siphoning.
3. Depending on location of leak/spill, it will be contained with bales or bermed soil (accessed from field) using front end tractor bucket. Soil will be removed from highway right of way after manure is cleaned up.
4. Bring or call in vacuum truck to suck up manure if pooled. Vacuum Truck Service: (555) 444-4444.
5. Block culvert with plywood to prevent manure from flowing through.
6. If manure spill affects Secondary 567, then put out warning signs or pilot vehicles with flashers to warn traffic. Call local 911 if manure poses a driving hazard for vehicles on Secondary 567 until it can be cleaned up. Contact the appropriate district Alberta Transportation Office who issued the permit.
7. Equipment: Tractor, water tank with hose to spray off highway, bales, and plywood.
8. Call the 24-hour Natural Resources Conservation Board (NRCB) Hotline at 1-866-383-6722 to report the leak and work with them to manage the spill.

Example of a Traffic Accommodation Strategy

Traffic Accommodation Strategy (TAS)

John Brown

Manure dragline running parallel and crossing through a culvert on Highway 567

Start Date: May 1, 2017

Summary and Overview:

This project involves a temporary surface dragline hose being put parallel to Highway 567 at SW17-27-28-W4 for approximately ½ mile and then crossing underneath Highway 567 through a 24 inch culvert to incorporate manure onto the east half of NE8-27-28-W4.

Duration of Work: Manure application will take place over 2 days between May 1- May 15, 2017. Work will only take place during daylight hours.

Traffic Volumes: These can be accessed on Alberta Transportation website: <http://www.transportation.alberta.ca/2639.htm>.

The traffic volumes as per the Alberta Transportation website for Sec 567 in 2016 Average Annual Daily Traffic (AADT) is a count of 2450.

Contract Special Provisions: N/A

Class of Roadway: This is a two lane paved highway running east and west.

Available Sight Distances: Line of sight distances are considerable in either direction (approx. 1 km).

Traffic Control Devices: Alberta Transportation TCS-B-2.3A is used with a few modifications since we are utilizing both sides of the highway right of ways to run the hose.

Speed Limits: The speed limit on the road is 100 km/h.

Signage: Two construction/working signs will be rented from AB Traffic Supply and placed 1.5 km east and west of the culvert. Lath with flagging will be used where the dragline enters and exits the highway right of way on the north and south sides. No other special items will be required other than signage as the work area will be off the road.

Placement of Signs: Vehicles and people will be accessing through the ditch and not on the road.

Stabilizing Traffic Control Devices: Signs will be weighted down or supported as required with sand bags.

Closing of lanes: Not required.

Requirements on Typical Drawings: As stated before, the use of Alberta Transportation's TCS-B-2.3A with the addition of culvert location, right of way used for dragline (parallel running area), and highway number.

Weather Conditions: Discussed in the morning of the application date. There will be no work done during bad (heavy rain or snow) weather conditions.

Site Specific Safety Issues: Site specific safety issues and review of the TAS will be discussed prior to starting.

Emergency Response Plan: See manure spill/leak emergency action plan.

On Site Traffic Accommodation Designate: John Brown Cell: (555) 555-5555

On Site Project Manager: John Brown Cell: (555) 555-5555

Monitoring Traffic Accommodation: Dragline will be monitored every hour.

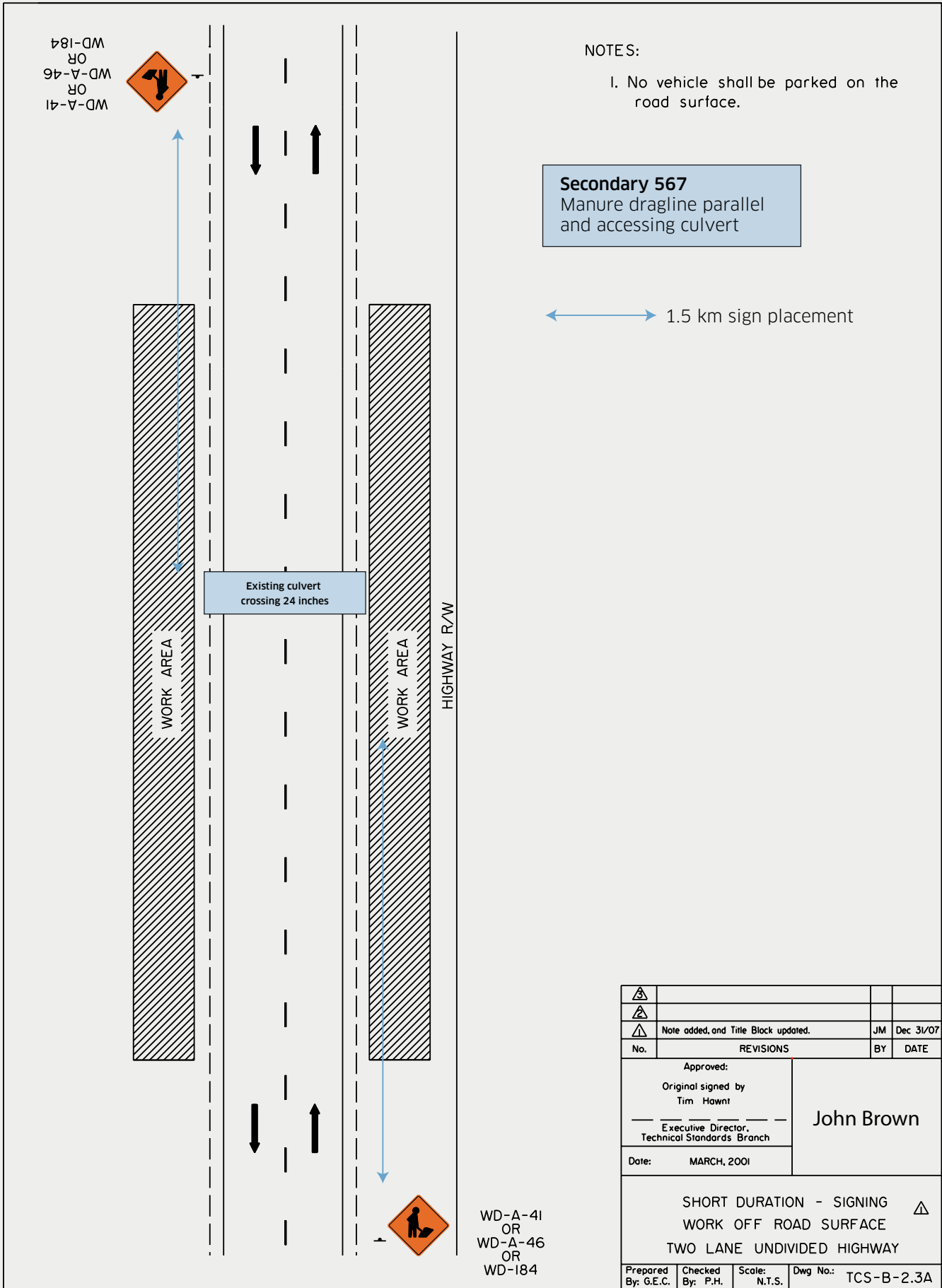
Communication: Neighbouring landowner numbers in case of emergency:

Jane Doe: (555) 222-2222 NW8-27-28-W4

Harvey Smith: (333) 333-3333 SE17-27-28-W4

NRCB 24 Hour Response Line: 1-866-383-6722

Traffic Signage Diagram



△			
△			
△	Note added, and Title Block updated.	JM	Dec 31/07
No.	REVISIONS	BY	DATE
Approved: Original signed by Tim Hawnt Executive Director, Technical Standards Branch		John Brown	
Date:	MARCH, 2001		
SHORT DURATION - SIGNING WORK OFF ROAD SURFACE TWO LANE UNDIVIDED HIGHWAY			△
Prepared By: G.E.C.	Checked By: P.H.	Scale: N.T.S.	Dwg No.: TCS-B-2.3A

Appendix B – Application Forms

APPLICATION FOR PLACEMENT OF A WATER / SEWER PIPELINE

APPLICANT:

Company _____

Mailing Address _____

City _____ Province _____ Postal Code _____

Contact Person _____

Phone # _____ Fax # _____ e-mail _____

Member of a one-call system? Yes No
(e.g. Alberta First Call)

OWNER:

Company _____

Mailing Address _____

City _____ Province _____ Postal Code _____

Phone # _____ Fax # _____ e-mail _____

FACILITY:

Type: _____ File / Drawing No. _____
(e.g. water / sewer)

CARRIER PIPE

Pipe Type _____ Max. Operating Pressure (kPa) _____

Outside Diameter (mm) _____ Wall Thickness (mm) _____

CASING PIPE

Outside Diameter (mm) _____ Wall Thickness (mm) _____

CONSTRUCTION LOCATION

Starting Point _____ Ending Point _____
(legal location) (legal location)

Highway(s) Affected: _____

PROPOSED FACILITY PARALLELS HIGHWAY NO. _____ FROM - TO

___ ¼ SEC ___ TWP ___ RGE ___ W ___ M TO ___ ¼ SEC ___ TWP ___ RGE ___ W ___ M

___ ¼ SEC ___ TWP ___ RGE ___ W ___ M TO ___ ¼ SEC ___ TWP ___ RGE ___ W ___ M

PROPOSED FACILITY CROSSES HIGHWAY NO. _____ BETWEEN / IN THE

___ ¼ SEC ___ TWP ___ RGE ___ W ___ M AND ___ ¼ SEC ___ TWP ___ RGE ___ W ___ M

___ ¼ SEC ___ TWP ___ RGE ___ W ___ M AND ___ ¼ SEC ___ TWP ___ RGE ___ W ___ M

COMMENTS:

I _____ hereby certify that the information given on this form is full and complete and is, to the best of my knowledge, a true statement of facts relating to this application for placement of a water/sewer pipeline.

(Signed) _____ (Date) _____

Emergency Manure Action Plan

Business Name: _____

Date created: _____

1. List Emergency Telephone Numbers

Business Owner/Main Contact: _____

Alternate Contact: _____

NRCB 24 hour Response Line: 1.866.383.6722

Emergency 911

County Bylaw Officers: _____

Other: _____

Manure Spill in Farm Yard or Breach of Manure Storage
Your Plan:
<i>General action steps: Stop flow into storage, notify farmer/client, build containment dams, add soil to berm, pump manure from storage to field or alternative storage (such as a tank or other manure storage facility), remove and clean up manure from discharge area, notify authorities if impacting a water body or water source (such as a well or dugout).</i>
Manure Spill on Road
Your Plan:
<i>General action steps: Assess the situation. Human injuries, if present, take precedence. Prevent further accidents or injuries by putting out warning signs such as flashers, flares or triangles. Stop any oncoming traffic, stop any additional spillage, try to contain the manure released or spilled, and remove any that can be done without disruption to the road. Contact county bylaw officer, the county sheriff or RCMP. Remove any remaining manure from road under advisement. Prepare summary report.</i>
Manure Dragline or Pumping Emergency
Your Plan:
<i>General action steps: Stop pumps, close valves, separate or clamp pipes, build containment dams, notify the farmer/ client and the Natural Resources Conservation Board (NRCB), remove and clean up manure from discharge area. Prepare summary report.</i>
Manure Spill in Field
Your Plan:
<i>General action steps: Stop manure application, build containment dams, plow a diversion trench, remove and clean up manure from discharge area, notify the farmer/client and the Natural Resources Conservation Board (NRCB). Prepare summary report.</i>

Additional Equipment, Contractors and Storage	Location and Owner	Telephone

Traffic Accommodation Strategy (TAS)

Name:

Project and Highway:

Start Date:

Summary and Overview:

Duration of Work:

Traffic Volumes: *The traffic volumes per Alberta Transportation website:* <http://www.transportation.alberta.ca/2639.htm>

Contract Special Provisions:

Class of Roadway:

Available Sight Distances:

Traffic Control Devices:

Speed Limits:

Signage:

Placement of Signs:

Stabilizing Traffic Control Devices:

Closing of Lanes:

Requirements on Typical Drawings:

Weather Conditions:

Site Specific Safety Issues:

Emergency Response Plan: *See manure spill/leak emergency action plan.*

On Site Traffic Accommodation Designate:

On Site Project Manager:

Monitoring Traffic Accommodation:

Communication:

NRCB Response Line: 1-866-383-6722

Attachments:

Traffic Signage Diagram

Hand Drawn Map or Aerial Photo